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20. ABSTRACT This is the Soviet Laser Bibliography for September-October 1978 and is no. 37 in a continuing series on Soviet laser developments. The coverage includes basic research on solid state, liquid, gas, and chemical lasers; components; nonlinear optics; spectroscopy of laser materials; ultrashort pulse generation; crystal growing; theoretical aspects of advanced lasers; and general laser theory. Laser applications are listed under biological effects; communications; beam propagation; computer technology; holography; laser-induced chemical reactions; measurement of laser parameters; laser measurement applications; laser-excited optical effects; beam-target interaction; and plasma generation and diagnostics.		



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Vice Director for Production
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Introduction

This bibliography has been compiled under an interagency agreement as a continuing effort to document current Soviet-bloc developments in the quantum electronics field. The period covered is September-October 1978, and includes all significant laser-related articles received by us in that interval. The bulk of the entries come from the approximately 30 periodicals which are known to publish the most significant findings in Soviet laser technology. Citations from the Russian Reference Journals are included, as well as entries from the CIRC data base not otherwise covered. Laser items from the popular or semipopular press are generally omitted.

For convenience we have abbreviated frequently cited source names; a source abbreviations list and an author index are included. All sources cited with no parenthetical notation are available at the Library of Congress. A parenthetical entry (RZh, KL) indicates the secondary source in which the citation was found as a bibliographic entry or abstract, but for which the original source is not currently available at the Library. The authors' affiliations are indicated by the numbers in parentheses following the authors' names in the text and are listed in the Author Affiliations List. New affiliations are assigned a new number and are added to a cumulative list which includes all affiliations from 1969 to the present. Only those affiliations which appear in this issue are listed in this issue's Author Affiliations List.

SOVIET LASER BIBLIOGRAPHY, SEPTEMBER - OCTOBER 1978

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I. BASIC RESEARCH

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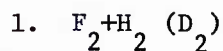
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J. BEAM-TARGET INTERACTION

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III. MONOGRAPHS, BOOKS, CONFERENCE PROCEEDINGS

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IV. SOURCE ABBREVIATIONS

(CIRC Codens)

APH	(APAHA)	Acta physica Academiae scientiarum hungaricae
BAPS Math	(BAPMA)	Bulletin de l'Academie Polonaise des Sciences. Serie des Sciences Mathematique, Astronomique et Physique
BWAT	(BWATA)	Biuletyn Wojskowej akademii technicznej J. Dabrowskiego
DAN Arm	(DANAA)	Akademiya nauk Armyanskoy SSR. Doklady
DAN B	(DBLRA)	Akademiya nauk Belorusskoy SSR. Doklady
DAN SSSR	(DANKA)	Akademiya nauk SSSR. Doklady
EOM	(EOBMA)	Elektronnaya obrabotka materialov
FikHOM	(FKOMA)	Fizika i khimiya obrabotka materialov
FTP	(FTPPA)	Fizika i tekhnika poluprovodnikov
FTT	(FTVTA)	Fizika tverdogo tela
IAN Arm	(IAAFA)	Akademiya nauk Armyanskoy SSR. Izvestiya. Fizika
IAN B	(VABFA)	Akademiya nauk Belorusskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk
IT	(IZTEA)	Izmeritel'naya tekhnika
IVUZ Fiz	(IVUFA)	Izvestiya vysshikh uchebnykh zavedeniy. Fizika
IVUZ Priboro	(IVUBA)	Izvestiya vysshikh uchebnykh zavedeniy. Priborostroyeniye
IVUZ Radioelektr (IVUZB)		Izvestiya vysshikh uchebnykh zavedeniy. Radioelektronika
IVUZ Radiofiz	(IVYRA)	Izvestiya vysshikh uchebnykh zavedeniy. Radiofizika
KE	(KVEKA)	Kvantovaya elektronika
KhVE	(KHKVA)	Khimiya vysokikh energiy
KL	(KNLTA)	Knizhnaya letopis'
KLDV	(KLDVA)	Knizhnaya letopis'. Dopolnitel'nyy vypusk
KSpF	(KRSFA)	Kratkiye soobshcheniya po fizike
MZhiG	(IMZGA)	Akademiya nauk SSSR. Izvestiya. Mekhanika zhidkosti i gaza

OiS	(OPSPA)	Optika i spektroskopiya
OMP	(OPMPA)	Optiko-mekhanicheskaya promyshlennost'
PTE	(PRTEA)	Pribory i tekhnika eksperimenta
RiE	(RAELA)	Radiotekhnika i elektronika
RZhF	(RZFZA)	Referativnyy zhurnal. Fizika
RZhGeofiz	(GZGFA)	Referativnyy zhurnal. Geofizika
RZhMekh	(RZMKA)	Referativnyy zhurnal. Mekhanika
RZhRadiot	(RZRAB)	Referativnyy zhurnal. Radiotekhnika
Sb1	Sbornik	Dielektricheskiye materialy radioelektroniki. Moskva, 1977.
Sb2		Vsesoyuznyy seminar po fizicheskim protsessam v gazovyykh OKG. 2nd. Uzhgorod, 15-17 May 1978. Tezisy dokladov. Uzhgorod, 1978.
Sb3		Kvantovaya elektronika, no. 14, Kiyev, 1978.
Sb4		Issledovaniya po nelineynoy optike i spektroskopii, no. 2, 1976.
Sb5		Issledovaniya v oblasti spektroskopii i kvantovoy elektroniki. Vil'nyus, 1978.
Sb6		Opticheskaya obrabotka informatsii. Leningrad, 1978.
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Sb8		Neserebryanyye i neobychnnyye sredy dlya golografii. Leningrad, 1978.
Sb9		Mikroelektronika, no. 3, 1978.
Sb10		Opticheskiye metody obrabotki informatsii. Minsk, 1978.
Sb11		Elektroopticheskaya segnekeramika. Riga, 1977.
Sb12		Leningradskiy elektrotekhnicheskiiy institut. Mezhdvuznyy sbornik, no. 118, 1977.
Sb13		Vsesoyuznaya konferentsiya po rasprostraneniyu radiovoln. 12th. Tomsk, 1978. Part 2. Tezisy dokladov. Moskva, 1978.
Sb14		Ionosfernyye issledovaniya, no. 26, 1978.
Sb15		Fundamental'nyye osnovy opticheskoy pamyati i sredy (formerly: Sposoby zapisi informatsii na besserebr-yanykh nositeliyakh), no. 9, 1978.

- Sb16 Sovetsko-frantsuzskiy simpozium optikospektral'nym priboram i priboram dlya obrabotki izobrazheniy, Moskva, September 1976. Materialy. Moskva, 1977.
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- Sb20 Segneto- i p'yezomaterialy i ikh primeneniye. Moskva, 1978.
- Sb21 Metody lazernoy dopplerovskoy diagnostiki v gidroaerodinamika. Minsk, 1978.
- Sb22 Sovremennyye problemy razvitiya ispytatel'nykh mashin, vesodozirovochnoy i siloizmeritel'noy tekhniki. Moskva, 1978.
- Sb23 Metody lazernoy diagnostiki odnofaznykh i mnogofaznykh techeniy. Minsk, 1978.
- Sb24 Geofizicheskiy sbornik, no. 83, 1978.
- Sb25 Razvedochnaya geofizika, no. 81, 1978.
- Sb26 Voprosy analiza i sinteza radiosignalov i ikh obrabotki, no. 2, 1977.
- Sb27 Magnitnyye svoystva plenochnykh i massivnykh materialov. Krasnoyarsk, 1977.
- Sb28 Sobstvennyye poluprovodniki pri bol'shikh urovnyakh vzbuzhdeniya. Kishinev, 1978.
- Sb29 Elektronnyye svoystva tverdykh tel i fazov prevrashcheniya. Saransk, 1978.
- Sb30 Problemy fiziki khimii poverkhnosti poluprovodnikov. Novosibirsk, 1978.
- Sb31 Sredstva svyazi, no. 4, 1977.
- TKiT (TKTEA) Tekhnika kino i televideniya
- Tr1 Trudy Fizicheskiiy institut AN SSSR. Trudy, no. 103, 1978.
- Tr2 Trudy metrologicheskikh institutov SSSR. VNII metrologii, no. 220/280, 1977.
- Tr3 Kharkovskiy universitet. Vestnik, no. 163, 1978.
- Tr4 Institut kibernetiki AN GruzSSR. Trudy, no. 3, 1977.
- Tr5 Belorusskiy universitet. Vestnik, seriya 1, no. 2, 1978.
- Tr6 VNII fiziko-tekhnicheskikh i radiotekhnicheskikh izmereniy. Trudy, no. 33/63, 1977.

Tr7		Moskovskiy energeticheskiy institut. Trudy, no. 350, 1978.
Tr8		Institut fiziki AN BSSR. Preprint, no. 144, 1978.
TVT	(TVTYA)	Teplofizika vysokikh temperatur
UFN	(UFNAA)	Uspekhi fizicheskikh nauk
UFZh	(UFIZA)	Ukrainskiy fizicheskiy zhurnal
VMU	(VMUFA)	Moskovskiy universitet. Vestnik. Fizika, astronomiya
VMU Khim	(VMUKA)	Moskovskiy universitet. Vestnik. Khimiya
ZhETF	(ZEIFA)	Zhurnal eksperimental'noy i teoreticheskoy fiziki
ZhETF P	(ZFPA)	Pis'ma v Zhurnal eksperimental'noy i teoreticheskoy fiziki
ZhNiPfiK	(ZNPFA)	Zhurnal nauchnoy i prikladnoy fotografii i kinematografii
ZhPMTF	(ZPMFA)	Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki
ZhPS	(ZPSBA)	Zhurnal prikladnoy spektroskopii
ZhTF	(ZTEFA)	Zhurnal tekhnicheskoy fiziki
ZhTF P	(PZTFD)	Pis'ma v Zhurnal tekhnicheskoy fiziki
ZhVMMF	(ZVMFA)	Zhurnal vychislitel'noy matematiki i matematicheskoy fiziki

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16. Moscow Engineering Physics Institute (Moskovskiy inzhenerno-fizicheskiy institut).
17. Institute of Mechanical Problems, AN SSSR (Institut problem mekhaniki AN SSSR).
19. Moscow Power Engineering Institute (Moskovskiy energeticheskiy institut).
23. Institute of Atomic Energy im Kurchatov, Moscow (Institut atomnoy energii im Kurchatova).
24. Moscow Higher Technical College im Bauman (Moskovskoye vyssheye tekhnicheskoye uchilishche im Baumana).
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110. Leningrad Electrotechnical Institute (Leningradskiy elektrotekhnicheskiy institut).
120. Moscow Institute of Engineers of Geodesy, Aerial Photography and Cartography (Moskovskiy institut inzhenerov geodezii, aerofotos"yemki i kartografii).
122. Scientific Research Institute of Physicochemistry im Karpov (NI fiziko-khimicheskiy institut im Karpova).
136. Uzhgorod State University (Uzhgorodskiy GU).
137. Voronezh State University (Voronezhskiy GU).
138. Voronezh Polytechnic Institute (Voronezhskiy politekhnicheskiy institut).
140. All Union Scientific Research Institute of Physicotechnical and Radiotechnical Measurements (VNII fiziko-tekhnicheskikh i radiotekhnicheskikh izmereniy).
141. All Union Scientific Research Institute of Opticophysical Measurements (VNII optiko-fizicheskikh izmereniy).
151. Kishinev State University (Kishinevskiy GU).
159. Institute of Thermophysics, Siberian Branch, AN SSSR (Institut teplofiziki SOAN).
161. Moscow Institute of Radio Engineering, Electronics and Automation (Moskovskiy institut radiotekhniki, elektroniki i avtomatiki).
162. Moscow State Pedagogical Institute (Moskovskiy gos pedagogicheskiy institut).
163. All Union Scientific Research Institute of Metrology im Mendeleyev (VNII metrologii im Mendeleyeva).
174. Scientific Research Institute of Organic Intermediates and Dyestuffs, Moscow (NII organicheskikh poluproduktov i krasiteley).
193. Institute of Theoretical and Applied Mechanics, Siberian Branch, AN SSSR (Institut teoreticheskoy i prikladnoy mekhaniki SOAN).
197. Tomsk Polytechnic Institute (Tomskiy politekhnicheskiy institut).
231. Scientific Research Institute of Motion Pictures and Photography (NI kinofotoinstitut).
244. Moscow Scientific Research Institute of Television (Moskovskiy NI televizionnyy institut).
252. Leningrad Institute of Nuclear Physics, AN SSSR (Leningradskiy institut yadernoy fiziki AN SSSR).
265. Irkutsk Polytechnical Institute (Irkutskiy politekhnicheskiy institut).
276. Institute of Physics of the Earth im Shmidt, AN SSSR (Institut fiziki Zemli im Shmidta AN SSSR).
295. Institute of Chemical Kinetics and Combustion, Siberian Branch, AN SSSR (Institut khimecheskoy kinetiki i goreniya SOAN).
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363. Kiev State Pedagogical Institute (Kiyevskiy gos pedagogicheskiy institut).
442. Institute of High Energy Physics, AN KazSSR, Alma-Ata (Institut fiziki vysokikh energiy AN KazSSR).

- 445. All Union Scientific Research Institute of the Metrological Service, Moscow (VNII metrologicheskoy sluzhby).
- 461. Tashkent Polytechnic Institute im Abu Raykhana Beruni (Tashkentskiy politekhnicheskiy institut im Abu Raykhana Beruni).
- 462. Central Scientific Research Institute of Information and Technical-Economic Studies of Instrument Manufacture, Means of Automation and Control Systems, Moscow (Tsentral'nyy VNII informatsii i tekhniko-ekonomicheskikh issledovaniy priborostroyeniya, sredstv avtomatizatsii i sistem upravleniya).
- 463. Central Scientific Research Institute of Geological Prospecting for Nonferrous and Noble Metals, Moscow (TsNI geologorazvedochnyy institut tsvetnykh i blagorodnykh metallov).
- 464. Nizhniy Tagil State Pedagogical Institute (Nizhniy Tagil'skiy gos ped institut).
- 465. Kuybyshev Aviation Institute (Kuybeshevskiy aviatsionnyy institut).
- 468. Institute of Low Pressure Physics, AN SSSR, Moscow (Institut fiziki nizkikh davleniy AN SSSR).

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KURATEV I I	4	LIPATOV A S	19	MANUSHEVICH G N	27	MIRONOV V L	42
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KURBATOV L N	3	LIPOVSKIY I M	71	MARGOLIN A D	11	MISHIN G I	15
KURDYUMOV O A	43	LISITSA M P	54,68,70	MARGOLIN L YA	81	MISHIN V I	49
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MOROZOV B N	83	NIKOLAYEV V M	25	PAL' A F	19	PIITERKIN B D	4
MOROZOV I A	5	NIKOLIC P M	71	PANASYUK L M	27,43	PIVOVAR V A	9,10
MOROZOV V N	2	NIKOL'SKIY O A	7	PAN'KO YE V	5	PKHALAGOV YU A	42
MOROZOVA S G	22	NIKULIN N G	28	PANTEL CH	75	PLASTININ V V	8
MOSKALENKO S A	71	NIKULIN V YA	78	PANTELEYEV V V	77	PLATONENKO V T	19
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MOTULEVICH G P	69	NIZ'YEV V G	10	PAPP V Z	18	PLOTNIKOV A F	25,46
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RUBIN A B	36	SEMOV O G	78	SHKUNOV V V	49	SMIRNOVA Z A	4
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